

ABSTRACT OF THE INVENTION

The present invention relates to an inflator for inflating a cushion of an airbag module. The inflator induces expansion of a gas by application of an electric voltage to the gas or to a plurality of filaments disposed within the gas. The voltage may be applied 5 between a nozzle and a conductor in such a manner that an arc forms within the nozzle. Gas passing through the nozzle then forms an arc-jet that further heats adjacent gas. Multiple gases may be used, including gases designed to combust and/or dissociate to produce additional moles of inflation gas. The voltage may alternatively be applied within the housing in such a manner that a corona is formed in the gas, thereby at least 10 partially ionizing the gas to heat the gas. As yet another alternative, the voltage may be applied to some of the filaments to provide gas expansion via filament combustion.

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